

ISyE 6203
Transportation and Supply Chain Systems
Fall 2000
Administrative Info

Instructor: Anton J. Kleywegt
Office: Groseclose 409
Office hours: Tuesday and Thursday 11:00–12:00
e-mail: Anton.Kleywegt@isye.gatech.edu
WWW URL: http://www.isye.gatech.edu/faculty/Anton_Kleywegt
Phone: (404) 894-4323
Fax: (404) 894-0390

Class Room: IC215
Class Times: Tuesday and Thursday 9:35–10:55

Description:

Logistics systems, with emphasis on transportation and supply chain systems, including

- the activities of transportation and supply chain systems, such as transportation network design, scheduling, routing, contracting, and pricing;
- the information systems that support transportation and supply chain systems;
- the interactions and trade-offs between these activities;
- models and techniques for the analysis of logistics systems and the development of decision support systems.

Objectives:

- to develop a familiarity with logistics concepts, especially transportation and supply chain concepts;
- to understand the important issues in logistics system design and operation;
- to develop the ability to formulate models of systems and to analyze results obtained with such models;
- to develop skills in applying a variety of techniques to solve logistics problems.

Prerequisites:

Optimization at the level of ISyE6669. Probability models at the level of ISyE6650. You must know how to use some basic software, including a spreadsheet, a database, and an optimization solver.

Textbook:

- Bramel, J. and Simchi-Levi, D., *The Logic of Logistics*, Springer, New York, NY, 1997.
- Daganzo, C. F., *Logistics Systems Analysis*, Springer-Verlag, Heidelberg, Germany, 1999.

References:

- Ballou, Ronald H., *Business Logistics Management*, 4th edition, Prentice Hall, Englewood Cliffs, NJ, 1998.
- Ballou, Ronald H., *Basic Business Logistics*, 2nd edition, Prentice Hall, Englewood Cliffs, NJ, 1987.
- Blanchard, Benjamin S., *Logistics Engineering and Management*, 4th edition, Prentice Hall, 1992.
- Coyle, John J., Bardi, Edward J., and Langley, C. John, *The Management of Business Logistics*, 5th edition, West Publishing Company, St. Paul, MN, 1992.
- Graves, Stephen C., Rinnooy Kan, Alexander H.G., and Zipkin, Paul H., *Logistics of Production and Inventory*, North-Holland, 1993.
- Magee, John F., Copacino, William C., and Rosenfield, Donald B., *Modern Logistics Management*, Wiley, New York, NY, 1985.
- Narasimhan, Seetharama L., McLeavey, Dennis W., and Billington, Peter J., *Production Planning and Inventory Control*, 2nd. edition, Prentice Hall, 1995.
- Robeson, James F., Copacino, William C., and Howe, R. Edwin, *The Logistics Handbook*, Maxwell MacMillan, 1994.
- Tersine, Richard J., *Principles of Inventory and Materials Management*, 3rd edition, North-Holland, 1988.
- Vollmann, Thomas E., Berry, William L., and Whybark, D. Clay, *Integrated Production and Inventory Management*, Business One Irwin, 1993.

Topics Covered:

- Transportation Modes
- Pricing and Revenue Management
- Estimation and Forecasting
- Transportation Planning, Scheduling and Operations
- Location

Grading:

Grades will be assigned as follows:

- Homework: 20%
- Case Study Preparation and Class Participation: 20%
- Midterm exam: 30%
- Final exam: 30%

Homework:

Homework will be assigned approximately once every three weeks. You should start working on each homework early, that way you will have time to ask (and understand) questions in class before the homework is due. Late homework will be accepted only in case of unavoidable occurrences, such as illness or death in the family. You are encouraged to discuss homework and learn from each other, but each person must submit his/her own work, unless the homework specifically indicates that you should work in groups. You may be asked to present your group assignments in class. Any queries on homework grades must be submitted in writing to the instructor, together with the homework in question.

Case Studies:

Reading assignments for case studies will be given several times during the semester. The case study material will not be presented in class; instead, you will be expected to answer and discuss questions in class based on the case study material. It is essential that you review the material beforehand and come to class prepared. Grades are assigned for participation in class discussions.

Exams:

Exams will cover material discussed in class, as well as reading assignments and homeworks. The exams will be comprehensive. The midterm exam is scheduled for Thursday October 12, 2000, in class. The midterm exam will be closed book. The final exam will be a take-home exam, it will require the use of a computer, it will be issued on November 30, 2000, and will be due in class on December 7, 2000. Any queries on exam grades must be submitted in writing to the instructor, together with the exam in question. Make-up exams will be scheduled only in case of unavoidable emergencies, the instructor must be notified of the emergency as soon as possible, and the exam must be scheduled with the instructor as soon as possible after the emergency. If you cannot take an exam at the designated time or in the designated way, you should make alternative arrangements with the instructor as soon as possible.

Academic Honor Code:

It is your responsibility to familiarize yourself with the Georgia Tech Honor Code. Specifically, you must do your own work in all homeworks and exams; when homework is specifically assigned as group homework you may and should work with the other members of your group.